159967

FRA-2001-8728-19

DEPARTMENT OF TRANSPORTATION
Federal Railroad Administration

49 CFR Part 241
[FRA Docket No. -2001-8728; Notice No. 1]
RIN 2130 - AB 38

United States Locational Requirement for Dispatching of United States Rail Operations Interim Final Rule

Federal Railroad Administration
Office of Safety Analysis
August 18, 2000

United States Locational Requirement for Dispatching of United States Rail Operations

1.0 Background

Safe transport of passengers and freight by rail is due in large part to proper train handling and dispatching. Existing Federal regulations and industry practices addressing train handling and dispatching have resulted in an extraordinary safety record for railroad operations in the United States. The number of reportable railroad accidents has declined despite the increase in train-miles. Between 1991 and 1997, the number of accidents per million train miles fell from 4.88 to 3.78. The average annual improvement in the accident rate during that period was 4.39 percent. Human factor caused accidents constitute approximately one third of total reportable train accidents. Between 1991 and 1997, the number of human factor caused accidents per million train-miles fell from 1.54 to 1.26. The average annual improvement in the accident rate during that period was 2.9 percent.

Currently, dispatchers located outside the United States control only very limited train movements in the United States. Recently, however, there is the prospect of increased use of dispatchers located outside the United States to control United States railroad operations ("extraterritorial dispatching"). Specifically, the Canadian Pacific Railway Company (CP), which owns the Delaware and Hudson Railway Company (D & H), is interested in relocating from the United States to Canada the dispatching functions involving the dispatching of about 32 trains per day operating on 546 miles on the D & H system in the United States. The increased potential for location of dispatchers outside the United States borders has raised serious concerns regarding the continued safety of rail movements in the United States.

2.0 Problem Statement

FRA is concerned about the safety implications of an increasing number of extraterritorial railroad employees dispatching railroad operations that occur in the United States, including both train movements and the activities of a roadway worker that are subject to authorities issued to the roadway worker for working limits. The United States has established minimum safety standards for United States based dispatchers in the areas of operating rules and efficiency testing, drug and alcohol testing, and hours of service. Regulations and statutes in foreign countries applicable to dispatchers may fall below the minimum United States safety standards. In addition, a dispatcher based outside the United States and controlling domestic rail operations while under the influence of alcohol or drugs, exhausted because of working excessive hours, or who is not properly tested on railroad operating rules could issue directions thereby jeopardizing the safety of railroad employees or causing an accident. Finally, extraterritorial dispatchers may not be sufficiently proficient in the English language to understand or relate safety communications with domestic railroad employees, may use a different system of measurement, and may be performing their duties in locations around the world without the security voluntarily provided by railroads for dispatching facilities in the United States.

Recent changes in the organization of North American railroads have led to an increased interest in moving train dispatching functions outside of the United States. As mentioned above, CP, as the owner of the D&H, has expressed the desire to move to Canada dispatching positions that control the more than 500 miles of D&H track in the United States. Such corporate realignments in this continent have increased the probability that extensive train operations in the United States will be dispatched from one or more foreign countries.

The North American Free Trade Agreement (NAFTA) has increased trade among the United States, Mexico, and Canada. This in turn has increased the amount of transborder rail traffic in the United States. Incoming train crossing data is collected monthly at border ports by the United States Customs Service. In 1997, there were 7,479 train crossings into the United States from Mexico and 30,337 from Canada. This translates into an average of 104 trains crossing into the United States daily. As transborder traffic continues to increase on existing rail lines, it is likely that train speeds, which currently do not exceed 55 miles per hour at the borders, and train lengths will increase along with the actual number of trains crossing into the United States. This will increase the exposure of trains and other rail vehicles to railroad accidents at or near the borders with Mexico and Canada. As it faces this new operating environment with greater risk, the railroad industry must take precautions to avoid an increase in the number of accidents and incidents caused by human error.

In response to its concerns over the ability to maintain safety levels in a railroad environment with a potentially rapidly increasing presence of extraterritorial dispatchers who are not subject to the safety standards of domestic employees, FRA is issuing an Interim Final Rule addressing location of dispatchers of trains that operate in the United States. As discussed in more detail in section 6 below, the rule requires that dispatchers controlling United States railroad operations be located in the United States; the rule (1) permits continued extraterritorial dispatching of the very limited track segments in the United States that were normally being so dispatched in December 1999, and (2) conditionally permits extraterritorial dispatching in an emergency.

3.0 Approach

This analysis presents estimated monetary impacts and safety benefits expected to accrue over the next twenty years as a result of implementing the Interim Final Rule on dispatcher locational requirements.

In absence of the rule, it is not clear whether certain dispatching facilities would be relocated outside of the United States. Since the interest and technology available to relocate dispatching facilities are both relatively new, it is very difficult to estimate what the level of railroad interest and affected employee response would be. Railroads would consider relocation costs, including severance payments for displaced and dismissed employees, along with expected long-term savings when determining whether to relocate dispatching facilities to foreign countries. Cost impacts and safety benefits are estimated for the likeliest apparent course of action. Cost estimates represent our current state of knowledge. Certain cost factors that railroads consider, such as the ability to take advantage of economies of scale, are not readily quantifiable and are therefore discussed but not estimated in this analysis.

Note that certain benefits which may result from this rule are not quantified in this analysis. For instance, public perception that railroads offer high levels of safety and efficiency may promote rail use. Also, proactive measures which avoid accidents can in turn result in decreased delay and/or rerouting of other trains.

The Association of American Railroads (AAR) publishes Class I railroad average annual compensation rates for various employee groups. Certain labor rates used in this analysis are calculated by adding a 30 percent burden to the AAR rates to include employee fringe benefits and an additional 10 percent to include general and overhead expenses.

Exhibit 2 contains the United States Department of Transportation's estimates for the economic willingness-to-pay to prevent injuries. The estimated willingness-to-pay to prevent a fatality is placed at $2.7 million. The Abbréviated Injury Scale (AIS) developed by the Association for the Advancement of Automotive Medicine is used to assign values to six injury categories. The values assigned to injuries are calculated as a fraction of the value of a life.

Statistics for train accidents which result in property damages in excess of $6,600 as well as incidents which result in death, injury, or illness are reportable to FRA. The FRA Office of Safety Analysis provided data used for developing estimates of the impacts certain requirements will have on the level of reportable railroad accidents/incidents. In 1993, the FRA updated accident/incident cause codes. A conversion table is used to reassign an earlier cause into the most appropriate current cause code.

Reportable damage includes costs of repair or replacement in kind of damaged on-track equipment, signals, track structures, or roadbed. Examples of reportable damage costs are rental and/or operation of machinery such as cranes, bulldozers, etc., including the services of contractors and labor costs resulting from a wheel set change out following a derailment. Not included as reportable damages are other costs such as loss of lading, wreck clearance, additional transportation costs associated with line blockages (fuel and extra crew costs), reduced rates of asset utilization, and internal costs of accident investigation and claim handling. The magnitude of such costs will usually vary in proportion to the amount of property damage caused by an accident.

4.0 Findings

Public and private initiatives have successfully improved the safety of rail operations in the United States by reducing the number and severity of incidents, accidents, and resulting casualties. Use of technologies that provide for redundant safety measures and fail safe systems have contributed to the decrease in accidents attributed to human factors. However, dilution of these standards and initiatives to accommodate increasing transborder rail traffic creates the potential for an increase in injuries and fatalities resulting from rail accidents. FRA expects that the locational requirement for dispatching of United States rail operations contained in the Interim Final Rule will prevent the dilution of the standards and initiatives that have led to safety levels currently experienced in the United States.

FRA expects that overall the rule will not impose a significant cost on the rail industry over the next twenty years. For some rail operators, the total costs they incur will exceed the total benefits they achieve. For others, the benefits will outweigh the costs incurred.

FRA believes it is reasonable to expect that several injuries and fatalities will be avoided as a result of implementing this Interim Final Rule. FRA also believes that the safety of rail operations will be compromised if this rule is not implemented.

The following table presents estimated twenty-year *monetary* impacts associated with the new locational requirement for dispatching of United States rail operations. Detailed calculations of these estimates appear in this document in section 7.0, "Costs," and in the attached spreadsheets.

Description	Estimated 20-Year Costs (NPV)
Labor rate differential -	$ 7,386,569
Additional dispatcher supervisors -	220,398
Emergency situation notification -	3,811
Dismissed employee compensation -	(9,433,880)
Total Net Cost (NPV rounded)	**$ (1,823,102)**

5.0 Organizations and Personnel Affected

This Interim Final Rule could affect the approximately 2,800 domestic dispatchers that control rail movements in the United States as well as the following railroads in the United States.

Commuter/Intercity Passenger	19
Class I freight[1]	10
Class II freight[2]	27
Class III freight, tourist, and museum[3]	620
Total Number of Railroads	**676**

[1] For 1997, Class I railroads had operating revenues of $256.4 million or more.

[2] For 1997, Class II railroads had operating revenues of $20.5 million to $256.4 million.

[3] For 1997, Class III railroads had operating revenues of less than $20.5 million.

FRA does not expect the rule to affect many railroads or a significant number of domestic dispatchers. Generally, FRA expects that Class I and Class II freight railroads that enter into partnerships with Canadian and Mexican railroads and their dispatching service employees will be affected by this Interim Final Rule.

6.0 Locational Requirements

FRA is requiring that dispatchers controlling United States railroad operations be located in the United States with two exceptions. Extraterritorial dispatching (dispatching by foreign-based employees) may occur in emergency situations. Railroads must notify the FRA Regional Administrator for each of the regions in which the railroad operation takes place of such emergencies. FRA is also grandfathering normal extraterritorial dispatching of railroad operations in place as of December, 1999.

Specifically, the Canadian National Railway Company (CN) uses Canadian-based dispatchers to control trains operating from Ontario, Canada, into the United States on the following trackage in the United States: 1.8 miles to Detroit, Michigan; one mile to Buffalo, New York (Black Rock); 3 miles to Port Huron, Michigan; and 1.5 miles to Niagara Falls, New York. CN also uses Canadian-based dispatchers located in Edmonton, Alberta, Canada, to control trains operating into Minnesota on 40 miles of track on the Sprague Subdivision, which handles 10 trains daily. In addition, the Canadian Pacific Railway Company (CP) also operates into the United States at Niagara Falls, New York, for approximately one mile. This operation is dispatched from Montreal, Quebec, Canada. Finally, the Eastern Maine Railway Company operates track between McAdam, New Brunswick, Canada, to Brownville Junction, Maine, 99 miles of which are in the United States. Operations on this trackage are dispatched from St. John, New Brunswick, Canada. These rail operations do not cover any trackage that has been designated by FRA and the Military Traffic Management Command of the Department of Defense (DOD) as vital to the national defense. There is no evidence that these extremely limited operations have adversely affected safety. No dispatchers located in Mexico control railroad operations in the United States.

7.0 Costs

The advent of multinational alliances, mergers, and acquisitions creates an increased potential for train movements in the United States to be dispatched from other countries. One of the objectives of these undertakings is to take advantage of economies of scale and reduce overall costs. When two or more railroads merge, centralizing dispatching facilities may reduce overall costs; however, this may not always be the case. For instance, following the recent merger of the Union Pacific and Southern Pacific railroads (UP), the merged entity made a decision to abandon centralized dispatching in favor of local dispatching. To the extent that labor agreements permit, railroads may also try to locate centralized dispatching facilities in the country where the railroad is headquartered unless costs are significantly lower in another country. According to industry sources and statistics available from the Bureau of Labor Statistics, in the North American continent, average total employee compensation rates, including fringe benefits, are highest in the

United States.

Relocations to Canada

In absence of this Interim Final Rule, over the next twenty years, certain train movements in the United States would likely be dispatched from Canada. As previously mentioned, CP has proposed to move the dispatching functions for the D & H to Canada. In addition, The Burlington Northern and Santa Fe Railway Company (BNSF), one of the largest railroads currently operating in the United States, last year proposed a merger with the CN raising the possibility that in the future, in absence of this Interim Final Rule, a significant number of train movements in the United States could be dispatched from Canada. While the Surface Transportation Board (STB) has placed a 15-month moratorium on mergers and plans for a BNSF-CN consolidation have been cancelled, STB's moratorium on railroad mergers is scheduled to end in June 2001. Labor union approval does not seem to be an impediment for relocations arising out of mergers. If the merging railroads and their employees cannot reach an implementing agreement regarding the relocation, the merger conditions typically imposed by the STB permit the parties to seek binding arbitration to resolve the dispute. CN's previous acquisition of Grand Trunk Western Railroad, Inc. (GTW) raises the possibility of extraterritorial dispatching of 646 miles of track operated by GTW (1998 figures), and CN's recent acquisition of the Illinois Central Railroad Company raises the possibility of extraterritorial dispatching of a major north-south route at some future date. In addition, CP's earlier acquisition of the Soo Line Railroad Company also presents future exposure of the same kind.

The AAR publishes Class I railroad average annual wages by employee group. For 1998 average annual wages the employee group including dispatchers (Transportation, Other Than Train and Engine) was $50,726[4]. Burdening this rate by 40 percent to include employee fringe benefits and overhead yields a burdened annual average wage rate of $71,016. According to the American Train Dispatchers Division of the Brotherhood of Locomotive Engineers (ATDD- BLE), hourly pay rates in Canada for dispatchers of the particular railroad currently seeking to relocate dispatcher positions to Canada are approximately 20 percent lower than in the United States (applying an exchange rate of $1.45 (Canadian) to $1.00 (U.S.)). Note that all monetary values used in this analysis will be in U.S. dollars, unless otherwise specified.

The Bureau of Labor Statistics publishes the following information regarding relative compensation in different countries for the manufacturing sector. This sector includes railroad manufacturing but not railroad operations. Nevertheless, historical trend comparisons are probably similar for rail operations.

Hourly Compensation in Manufacturing United States and Canada

[4] Association of American Railroads, Economics, Policy and Statistics Department, Railroad Facts, 1998 edition, p.56.

(U.S. Dollar Basis; Indexes: 1992 = 100)

Year	United States	Canada	Canada/U.S.	% Change
1990	91.0	92.7	1.02	---
1991	95.8	99.9	1.04	+1.96
1992	100.0	100.0	1.00	- 3.85
1993	102.9	93.3	0.91	- 9.00
1994	105.8	88.8	0.84	- 7.69
1995	108.3	91.2	0.84	- 0.00
1996	110.7	91.1	0.82	- 2.38
1997	115.1	93.1	0.81	- 1.22
1998	120.0	90.3	0.75	- 7.41
Annual Average:			**0.89**	**- 3.70**

Relative to the United States, hourly compensation rates in the manufacturing sector in Canada have been decreasing. Absent further information, this analysis assumes that Canadian hourly compensation rates will remain lower than United States rates for the twenty-year period considered by this analysis. Therefore, this analysis assumes that any relocation of dispatching functions to Canada, which would occur in absence of this Interim Final Rule, would be permanent.

According to Statistics Canada and Industry Canada, in 1996 average annual administration salaries within the railroad industry were $53,356 in Canada. According to the United States Department of Commerce, United States administration average annual salaries were $69,504 within the railroad industry in 1996, that is, Canadian salaries are about 23 percent lower than United States salaries for administrative employees.

According to Statistics Canada and Industry Canada, in 1996 average annual production wages within the railroad industry were $42,775 in Canada. According to the United States Department of Commerce, United States average annual production wages were $44,371 within the railroad industry in 1996, that is, Canadian salaries are about 4 percent lower than United States salaries for production employees.

"Production workers include those employees at the manufacturing establishment level engaged in processing, assembling, storing, inspecting, handling, packing, maintenance, repair, janitorial and watchmen services, and working foremen. Administrative employees include all employees that are not involved in production and related manufacturing activity. Examples of those engaged in non-manufacturing operations include employees in head administrative executive, sales or service offices." Since the duties of dispatchers are more administrative in nature, this wage differential information supports the wage differential information presented by the ATDD-BLE. This analysis assumes a 20 percent United States/Canada wage differential.

Year-One Relocation: Information available to FRA indicates that the CP has already trained Canadian dispatchers to dispatch the 32 daily D & H trains currently being dispatched from the United States. CP has also set up mirror dispatching operations in Canada in preparation for the planned relocation of 5 dispatcher positions. Therefore, this analysis assumes that, in absence of this rule, five dispatcher jobs would be relocated to Canada immediately. Costs associated with the United States locational requirement for dispatching of United States rail operations are the wage differential savings that railroads would not achieve. The costs for the CP are estimated as follows:

Costs	
Average annual wages -	
Transportation, other than train & engine:	$ 71,016
Number of dispatchers:	5
Average annual labor savings of 20%:	$ 71,016

In Canada, foreigners are not allowed to work unless they are performing jobs which no Canadian citizen is willing to perform or learn to perform. Therefore, dispatching facilities that would be relocated to Canada would have to eventually be staffed by Canadian dispatchers and not the dispatchers currently performing the duties in the United States. Under the New York Dock employee protection conditions typically imposed by the STB in merger transactions, employees who are dismissed or displaced as a result of a railroad acquisition or similar transaction are generally entitled to compensation equal to the compensation they were receiving while employed by the railroad for up to 6 years or until they get another job. If they subsequently become employed at a lower pay rate, they remain entitled to any difference in compensation levels for up to 6 years. Employees not employed by the railroad for a full 6 years prior to becoming displaced or dismissed are eligible for subsequent compensation for only a period equal to the period they were employed by the railroad[5]. New York Dock conditions also include a moving allowance and protection against financial loss from the sale of a home for employees forced to relocate; this analysis assumes that the railroad moving dispatcher positions outside the country will not incur these two additional costs. New York Dock provisions would not likely not apply to all of the D& H dispatchers whose functions would be relocated to Canada because D & H dispatchers are currently eligible to bid on Soo Line dispatching positions, which are located at the same dispatching center, and the Soo Line (a domestic carrier already owned by CP) is actually currently seeking to hire additional dispatchers. Nevertheless, there is the possibility that not all of the D & H dispatchers would be transferred to Soo Line dispatching. Given that one or more domestic dispatchers may not be eligible for six years of protection because of the duration of their employment with the railroad and that one or more of the dispatchers may find another equal or better paying job with the Soo Line or another entity before the term of the compensation

[5] The New York Dock provision for 6 years of compensation is the minimum level required by law. To gain labor support for a merger, railroads have offered employees 10 years of protection in certain cases.

expires, this analysis assumes that compensation paid to displaced or dismissed employees would average approximately 40 percent of the maximum potential under the New York Dock provisions. CP's savings, in terms of employee dismissal/displacement compensation not paid, are estimated below.

Savings (first six years - one railroad)	
Average annual wages -	
Transportation, other than train & engine:	$ 65,944
Number of dispatchers:	5
Percent Compensation:	40
Average annual compensation cost:	$131,888

Year-Three Relocations: This analysis further assumes that, in absence of this rule, two years later, one or more other railroads would relocate other dispatcher positions to Canada. CP could move the remaining 17 dispatcher positions it has in the United States. The Illinois Central Railroad, a domestic railroad that has been approved for acquisition by the CN, could also relocate its dispatching operations to Canada. This railroad currently employs about 40 dispatchers. Finally, the Soo Line, a third railroad that employs approximately 23 dispatchers and is owned by the CP, had expressed interest in such a relocation in the past and may relocate its dispatchers to Canada in absence of this rule. This analysis assumes that 20 domestic dispatcher positions would be relocated to Canada in 3 years. Following are the estimated costs of not being able to carry out those relocations in terms of savings not achieved by the railroads:

Costs	
Average annual wages -	
Transportation, other than train & engine:	$ 71,016
Number of dispatchers:	20
Average annual labor savings of 20%:	$284,064

Under the New York Dock employee protection conditions, many of the domestic dispatchers who are dismissed or displaced as a result of the relocations would be entitled to compensation equal to the compensation they were receiving while employed for up to 6 years. Many of these dispatchers would not have much incentive to obtain employment during most of this period. However, some may have to perform other duties for which they are qualified at the railroad's discretion or may return to dispatching as attrition occurs in the remaining dispatcher functions, others may find better paying jobs during the six-year period, and finally, others may not be entitled to the full compensation package. Therefore, this analysis assumes that the railroads would have to provide the dismissed domestic dispatchers an average of 65 percent (versus 40 percent for employees not covered by the New York Dock agreement) compensation for 6 years.

Savings (first six years)

Average annual wages -	
Transportation, other than train & engine:	$ 65,944
Number of dispatchers:	20
Percent compensation:	65
Average annual labor cost:	$857,272

Year-Seven Relocations: Finally, the proposed combination of the BNSF/CN raises the concern that additional dispatching positions would be moved to Canada. Since the BNSF currently employs approximately 500 dispatchers controlling 95 districts from two locations, it is possible that some dispatcher positions would be relocated to Canada if the merger is approved. For purposes of this analysis, FRA assumes that the proposed merger would be approved in 2003 and that, within the first 4 years of the merger, arrangements could be made to relocate certain domestic dispatching facilities to Canada. These arrangements would include training the Canadian dispatchers over the territories and modifying software to accommodate the new territories. There is also the possibility that another merger not yet conceived could occur and result in yet another relocation of dispatching facilities. Finally, railroads, such as the UP, without unionized dispatchers could relocate certain dispatching facilities to a country, such as Canada, with lower labor rates. However, the UP has not currently expressed any interest in relocating any dispatching facilities. Given the difficulty associated with finding and training a sufficient number of Canadian citizens to dispatch rail movements, the high compensation payments that would need to be made to displaced or dismissed domestic dispatchers, and that the STB has imposed a 15-month moratorium on merger applications being filed, FRA estimates that relocation would be limited to approximately 50 dispatchers from one or more railroads in year 7. Following are costs associated with such a relocation to Canada.

Costs

Average annual wages -	
Transportation, other than train & engine:	$ 71,016
Number of dispatchers:	50
Average annual labor savings of 20%:	$710,160

Since there is great uncertainty regarding the applicability of the New York Dock employee protection conditions; the probability of finding a sufficient number of Canadian citizens willing and able to learn to dispatch rail movements is not as high; and there is also uncertainty as to whether the labor union would agree and, if called in, what an arbitrator may decide; this analysis assumes that railroads would have to provide dismissed domestic dispatchers an average of 50 percent (versus 65 percent for employees covered by the New York Dock agreement and 40 percent for those not covered by it) compensation for 6 years. Savings from avoiding payment of compensation allowances to displaced employees are estimated as follows.

Savings (first six years)

Average annual wages -	
Transportation, other than train & engine:	$ 65,944
Number of dispatchers:	50
Percent compensation:	50
Average annual labor cost:	$1,648,600

FRA is not aware of any other United States/Canadian railroad merger interests at present. However, CP may be forced to merge with a United States railroad to stay competitive should the BNSF/CN merger be approved. Many factors determine the viability of such mergers. FRA does not have sufficient information to forecast with any degree of certainty whether any more such mergers will occur in the future. Therefore, this analysis assumes that no other United States/Canadian railroad mergers will occur in the next twenty years. **FRA requests comments regarding the validity of this assumption.**

Estimated costs associated with the inability to relocate dispatching facilities to Canada due to the United States locational requirement for dispatching of United States rail operations are expected to total approximately $7.6 million over the next twenty years. Savings to railroads resulting from avoided compensation of dismissed and displaced domestic dispatchers are expected to total an estimated $9.4 million over the same period.

Additional Supervisors: In addition to costs associated with paying higher labor rates to domestic dispatchers, some railroads may also incur costs associated with having to employ more dispatcher supervisors than they would if dispatching facilities were centralized in a foreign country. To the extent that, in a domestic dispatching facility, there is not a sufficient number of dispatchers for a supervisor to supervise, the supervisor probably also performs regular dispatcher duties. In this case, the only cost of maintaining any additional supervisors would be the wage differential between dispatcher supervisors and non-supervisor dispatchers for the time spent by dispatcher supervisors performing non-supervisory dispatcher duties instead of supervisory work. Because railroads already have efficient dispatching operations in place it is not likely that there would be many additional supervisors employed as a result of not consolidating facilities.

Therefore, this analysis assumes that, for each relocation that is not permitted by this rule, one dispatcher supervisor that would not otherwise be employed is employed by the railroad. This analysis further assumes a wage differential between supervisor and non-supervisor dispatchers of 10 percent of the burdened United States wage rate and that one additional supervisory position will result from not permitting the relocation in year-one, another from the potential relocation assumed for year-three, and two positions from the assumed potential relocations for year-seven. **Total twenty-year (NPV) costs associated with employing more supervisors than would be necessary if dispatching operations were combined is estimated to be $220,398. FRA requests comments regarding the level of additional supervisors that may be employed as a result of this Interim Final Rule.**

Costs Not Quantified: Railroads may also not be able to take advantage of other economies of scale associated with consolidating dispatcher functions into one physical location. General and overhead costs such as communicating with a remote location (sending mail to and from, telephone calls, etc.) and maintaining certain redundant facilities (eating and exercise facilities, restrooms, etc.) may be additional burdens (or lost cost savings) imposed by this rule. FRA does not have sufficient information to estimate the level of savings that would result from such economies of scale. **FRA requests information regarding the level of these costs.**

Also, to the extent they occur, visits by railroad officials to dispatching facilities and by dispatchers to centralized locations in foreign countries would also be an additional cost imposed by the rule. FRA inspectors located in every major United States city where centralized dispatching facilities are located currently perform on-site inspections of such dispatch facilities. In absence of this Interim Final Rule, FRA would have to incur costs associated with sending inspectors to foreign countries to perform like inspections of the facilities being relocated. This analysis assumes that these cost savings would outweigh the costs incurred by employees of the railroad. That is, as railroad costs go up, FRA costs go down, and vice versa.

Relocation of Dispatching Functions to Countries Other Than Canada

United States railroads with holdings in foreign railroads or United States railroads held by foreign railroads may seek to consolidate dispatching facilities in foreign countries, especially to the extent that economies of scale and/or long term labor cost savings may be sufficient to overcome labor union demands and lack of a common language for communication or a common system of measurement. In deciding whether to relocate dispatching facilities to foreign countries, railroads will take into consideration various factors including: (1) difference in labor costs, (2) collective bargaining agreements in the case of unionized operations, (3) commonality of language and system of measures used in rail operations, and (4) logistical considerations. Although existing technology would allow trains operating in the United States to be dispatched from anywhere in the world, it is not likely that this would occur in the near future except from countries where entities that have part or whole ownership of United States rail operations are located and for either non-unionized dispatching operations or operations that would remain represented by the same labor union. Since, currently, the unions representing most domestic dispatchers have international representation only in Canada, commonality of system of measures for rail operations exists only with Canada, and Canada is better situated logistically than other countries (except for Mexico), it is unlikely that dispatching facilities would relocate other than to Canada in the near future. Unless a railroad relocated a very large number of dispatching positions, the costs associated with overcoming the logistical burdens would erode a large part of the labor cost savings.

Given the growth in rail traffic between Mexico and the United States, it is possible that extraterritorial dispatching of United States rail operations from Mexico could occur in the future. For example, FRA is aware that the Texas Mexican Railway, a small railroad in Texas owned by Mexrail Incorporated, had considered moving its dispatching functions to Monterey, Mexico.

Dispatching of United States operations at or near the border would be conducted in Spanish by round-the-clock single-person shifts and one supervisor. However, the Texas Mexican Railway found this not to be a viable alternative. This railroad may again at some in the future reevaluate the viability of such a relocation.

Although Mexican law forbids non-Mexican citizens from being majority holders of Mexican railroads, certain United States railroads already have significant holdings in Mexican railroads that were recently privatized. The presence of United States stakeholders in Mexican railroads has influenced the recent adoption of interchange rules and other safety practices by Mexican railroads. Since 1997, private companies have invested almost $7 billion in modernizing the Mexican railroads. Since the privatization, cargo transport via rail has risen 50 percent in volume to 80 million tons in 1999. The integration of United States/Mexican rail operations and the lower salary levels in Mexico may cause United States railroads to consider using Mexican-based dispatchers to control United States railroad operations. This may be particularly true of carriers, such as the Union Pacific, which have non-unionized dispatchers. FRA is also aware that two Mexican railroads are currently exploring the feasibility of obtaining trackage rights in the United States between Laredo and San Antonio and between Laredo and Houston. Given the difference in units of measurement for rail operations between the United States and Mexico, the difference in language used for communication, union representation of dispatchers in the territory that does not extend to Mexico, and other logistical issues, it appears unlikely that relocation would occur with respect to the trackage rights in absence of the locational requirement being imposed by FRA. Given the uncertainties mentioned above, this analysis assumes that relocation to any country other than Canada is unlikely for the twenty-year period covered by this analysis. **FRA requests comments regarding the appropriateness of this assumption as well as the costs and benefits associated with prohibiting relocation of railroad dispatchers to Mexico.**

Notification of Emergency Movements

FRA is requiring railroads that use extraterritorial dispatchers to dispatch United States rail operations in emergency situations to notify the appropriate FRA Regional Administrators as soon as practicable of the emergency. This analysis assumes that it would take an Administrative and Professional employee approximately 6 hours to draft and deliver such a notification. One or more Executive, Official, and Staff Assistant employees would probably spend a total of approximately 2 labor hours providing guidance to the drafter, reviewing drafts, and approving the notification document. Emergencies resulting in foreign dispatching of United States rail operations are not expected to occur often. This analysis assumes that such emergencies will occur an average of once each year.

Following are the estimated costs associated with requiring notification of emergency situations requiring extraterritorial dispatching of United States rail operations:

<u>Labor Costs -</u>

Professional and Administrative (6 hrs. @ 37.92/hr.): $ 227.52

Executive, Official & Staff Assistant (2 hrs. @ 66.11/hr.):	$ 132.22
Number of emergencies/year:	1
Average annual costs:	$ 359.74

The Net Present Value of the total estimated costs for twenty years is $3,811.09.

Total Twenty-Year Costs

Estimated costs associated with the inability to relocate dispatching facilities due to the United States locational requirement for dispatching of United States rail operations are expected to total approximately $7.6 million over the next twenty years. However, because railroads would not have to compensate dismissed and displaced domestic dispatchers, railroads would save an estimated $9.4 million over the same period. Certain costs associated with the inability to achieve economies of scale are not estimated. FRA believes that the total level of costs imposed on the industry over the next twenty-years will be very low. Exhibit 3a details estimated annual costs and savings.

8.0 Benefits

The benefit of the United States locational requirement for dispatching of United States rail operations is the assurance that dispatchers will continue to perform their duties in a manner that enables current rail safety levels to be maintained if not exceeded.

HUMAN FACTOR CAUSED TRAIN ACCIDENTS PER MILLION TRAIN-MILES[6]

Year	Human Factor Caused Train Accidents	Train-Miles (000)	Human Factor Train Accidents/Million Train-Miles	Percent Change
1988	1,031	609,334	1.6920	--------
1989	982	620,599	1.5823	- 6.48
1990	1,095	608,837	1.7985	+ 13.66
1991	887	576,835	1.5377	- 14.50
1992	864	593,704	1.4553	- 5.36
1993	865	613,974	1.4089	- 3.19
1994	911	655,083	1.3907	- 1.29
1995	944	669,823	1.4093	+ 1.34
1996	784	670,923	1.1685	- 17.09
1997	855	676,716	1.2635	+ 8.12
1998	971	682,895	1.4219	+ 1.25

HUMAN FACTOR CAUSED TRAIN ACCIDENTS
as a Percentage of Total Train Accidents[7]

Year	Human Factor Caused Train Accidents	Total Accidents	Human Factor Train Accidents/ Total Accidents
1988	1,031	3,051	0.33792
1989	982	3,080	0.31883
1990	1,095	3,045	0.35961
1991	887	2,814	0.31521
1992	864	2,531	0.34137
1993	865	2,785	0.31059
1994	911	2,669	0.34133
1995	944	2,619	0.36044
1996	784	2,584	0.30341

[6] Accident/Incident Bulletins Nos. 161, 165, Calendar Years 1992, 1996, Table 1, Railroad Operation Profile, and Table 3, Train Accident Causes. Railroad Safety Statistics, Annual Report 1997 and 1998, Table 1 - 1 Accident/Incident Summary and Table 5 - 6 Train Accidents By Type and Major Cause.

[7] Accident/Incident Bulletins Nos. 161, 165, Calendar Years 1992, 1996, Table 3, Train Accident Causes. Railroad Safety Statistics, Annual Report 1997 and 1998, Table 1 - 1 Accident/Incident Summary.

1997	855	2,560	0.33398
1998	971	2,745	0.35373

Railroads are taking advantage of technological advances to increase traffic volumes without significant investments in infrastructure. As trains operate in environments with higher levels of traffic and at higher speeds, they will become increasingly exposed to the potential hazards posed by human error. Accidents which could occur in such operating environments have the potential to be more serious in terms of the number and severity of resulting casualties.

Dispatchers actually "steer" trains by remotely aligning switches; determine whether trains should move or stop by operating signals and issuing train orders and other forms of movement authority; and protect roadway workers from passing trains. The role of dispatchers in train movements is crucial because, unlike aircraft, marine vessels, and road vehicles, trains, which are often a mile long in the case of freight trains, cannot alter their paths of movement to avoid collisions with other trains or vehicles that may be along their path and may take a mile or more to stop. Freight train accidents may result in the release of hazardous commodities which pose a risk to the railroad employees and surrounding communities. Passenger train accidents pose risk to the safety of train crews and passengers. Because dispatchers ensure the safety of train movements, the United States has Federal statutes and regulations in place to ensure that dispatchers are able to perform their duties safely. For instance, dispatchers must be alert to perform their duties well. To allow dispatchers sufficient periods of rest and prevent fatigue, dispatchers are not allowed under United States law to work more than 9 hours during a 24-hour period in a location where two or more shifts are employed or 12 hours when a single shift is employed. Dispatchers must understand railroad operating rules to perform their duties accurately. To ensure that they do, railroads are required under United States law to periodically instruct and test dispatchers on those rules. Dispatchers must be able to perform their duties without any impediment caused by the use of drugs and/or alcohol. For this reason, dispatchers located in the United States are subject under United States law to random, reasonable suspicion, return to duty, follow-up, and post-accident drug and alcohol testing, as well as preemployment testing for drugs. Additionally, domestic-based employers must provide self-referral and co-worker report programs for their dispatchers To establish compliance with these requirements, railroads must keep pertinent records available for FRA inspection.

FRA ensures that dispatchers and railroads comply with the safety laws and regulations that cover dispatchers and their functions. FRA inspectors located in every major United States city where centralized dispatching facilities are located currently do this by performing on-site inspections of such dispatch facilities. If such inspections reveal a lack of compliance or other safety concern not covered by an FRA regulation, FRA works with the railroads to improve safety and assure compliance and may impose monetary civil penalties if compliance is not improved.

For example, in 1997, FRA effectively used its Safety Assurance and Compliance Program (SACP) to address system-wide problems on the Union Pacific Railroad (UP) and Southern

Pacific Transportation Company (SP) during the period that the two railroads were in the process of merging with each other.[8] Between June 22 and August 31, 1997, UP/SP experienced five major train collisions that resulted in the deaths of five UP/SP employees and two trespassers. These accidents were in addition to a series of yard switching accidents that claimed the lives of four UP/SP train service employees. On August 23, under the auspices of the SACP, FRA launched a comprehensive safety review of UP/SP's operations, including its dispatching, and in the ensuing two-week period, as many as 80 FRA and state safety inspectors were on UP/SP property to determine the magnitude and extent of safety problems and recommend measures to address those problems. In November, following two non-fatal collisions, FRA sent a team of 87 Federal and state inspectors onto UP/SP property for one week to ensure that the safety deficiencies identified in the initial review were being dealt with at the highest levels of the organization. In addition, an FRA program manager was placed in the UP/SP Operations Center ("the Harriman Center") to serve as a continuous liaison.

As a result of the safety reviews, FRA concluded that UP/SP lacked many safety procedures which may have addressed or prevented many accidents and operational breakdowns on the system. FRA also concluded that a fundamental breakdown existed in some of the basic railroad operating procedures and practices essential to maintain a safe operation. UP/SP did not have a uniformly positive safety culture and lacked an effective safety hierarchy. As a result, safety policies that were applauded by senior management were not being effectively implemented in the field by first-line supervisors.

Under the SACP process, FRA's safety concerns and recommendations were brought to the attention of senior UP/SP management and labor. Realizing that a sound, effective railroad safety program would require the cooperation and commitment of all parties, six "working groups" consisting of representatives from FRA and UP/SP rail labor and management began working to identify and address systemic safety problems. One of those working groups focused on problems with UP/SP's train dispatching. FRA observed inefficient and unsafe practices by supervisors and dispatchers at UP/SP's Harriman Dispatch Center, which is UP/SP's main dispatching location and dispatches approximately 95 percent of UP/SP territory, and correctly attributed those practices to lack of training and extreme work overload. FRA determined that UP/SP should evaluate the workloads of dispatchers, realign the workloads of existing dispatcher positions, and create additional dispatcher positions to relieve excessive workloads. FRA made specific recommendations, which UP accepted, such as creating additional dispatch positions, hiring new dispatchers, and forming a team to continually monitor dispatching issues that arise.[9] As a result

---

[8] SP merged into UP effective February 1, 1998.

[9] FRA's SACP program on the post-merger UP continues today, and dispatching is still an important aspect of the program. As a result of the continued monitoring of UP's activities, UP hired 114 new dispatchers in 1998 and, as of mid-year 1999, planned to hire 124 new dispatchers by the end of 1999. In part as a result of this effort, problems with rail traffic congestion and derailment have been addressed.

of the SACP efforts, UP's safety performance recovered rapidly. Such an immediate response could not have been effectuated without FRA's proximity to UP property and ability to access its facilities, neither of which would have been guaranteed if UP's dispatching facilities were located in a foreign country.

Dispatchers working outside of the United States are not subject to the same hours of service requirements; operating rules instruction and testing requirements; or drug and alcohol self policing, random testing, and pre-employment testing requirements. FRA is not aware of the railroad safety regulations of most foreign countries. For those countries for which FRA has this information, FRA has no assurance that existing regulations are complied with or enforced to the same extent that they are in the United States or that they offer equivalent levels of safety. The preamble to the rule contains a detailed discussion of the regulatory gap that exists with other countries.

Absent a legal requirement or binding agreement by the railroad, there is no guarantee that FRA inspectors would be allowed physical access to foreign dispatching centers. Therefore, FRA may not be able to monitor safety compliance and may have to rely upon safety inspectors of the host country to perform the inspections for compliance. Finally, FRA may impose sanctions for violations of its safety standards against both railroads and individuals, including dispatchers and train and engine crew members, if the individual or railroad is located in the United States. FRA does not have such authority in other countries. This lack of authority reduces the incentive that railroads and dispatchers have to comply with the safety standards discussed above.

The implications of behavior that cannot be readily controlled at least to the extent that it is here in the United States poses a threat to the safe movement of trains. Any dispatcher controlling domestic rail operations while under the influence of alcohol and/or drugs, exhausted because of working excessive hours, or who is not sufficiently knowledgeable of railroad operating rules could issue incorrect directions, or could fail to issue directions. This could seriously jeopardize the safety of railroad employees or cause a train collision or derailment in the United States with resulting injuries or death to train crews, passengers, or both, and possible harm to surrounding communities. For instance, some drugs, which have adverse effects on judgement and reaction time and are controlled and required to be prescribed in the United States, may not be controlled or required to be prescribed in other countries. Use of medications available without a prescription as well as over-the-counter formulations which may have stronger sedative effects than their United States equivalents would also compromise the safety of rail movements in the United States

The benefits of continuing to offer dispatchers first-hand familiarity with the territories they dispatch will be retained under this rule. United States railroads currently provide dispatchers with first-hand familiarity with the segments of track over which they dispatch by sending them on road trips. This first-hand familiarity enables dispatchers to make more informed decisions regarding the allocation of track time. The relatively higher cost of travel from a foreign country, in terms of employee time and transportation, will reduce the incentive railroads have to provide extraterritorial dispatchers with first-hand familiarization trips.

Another benefit of the United States locational requirement for the dispatching of United States rail operations would be the prevention of certain dispatcher strikes that could significantly adversely affect United States transportation safety. FRA believes that the complexity of computing and communications systems would preclude switching from centralized dispatching outside the United States to local dispatching from within the United States in a strike situation unless an alternate dispatch center was established in advance with appropriate switching mechanisms and staffing, an expense railroads are not likely to undertake. The larger the number of track miles controlled by a dispatching center and the higher the volume of traffic (including the mix of freight and passenger trains), the less likely it is that normal dispatching operations could be continued from an alternative location or under an alternative means of train control. Furthermore, dispatchers in the United States are typically unionized employees subject to the Railway Labor Act (RLA). The RLA prohibits strikes over contract interpretation, and the parties are required to resolve their disputes by binding arbitration. Labor contracts under the RLA do not expire but continue until modified under an elaborate, time-consuming mediation process, with the possibility of an appointment of a Presidential Emergency Board to offer non-binding recommendations. In addition, under the RLA, Congress has the power to legislate an end to a strike by United States railroad employees, and has done so in 13 rail labor contract disputes. Employees based in a dispatch center located in a foreign country, however, are not subject to the RLA, and a labor dispute in that country could severely affect United States rail operations.

The implications of a strike that cannot be readily controlled to some extent by authorities have the potential of being quite severe, especially to the extent that they affect the shifting of rail freight and passenger traffic to crowded highways, the delivery of perishable goods to market, the delivery of coal for energy to parts of the country in need during extreme weather conditions, and transport of defense materials needed to ensure national security. A service disruption on one line has the potential to affect other lines with trackage or haulage rights.

It is impossible to forecast with confidence the number, duration, or impact of labor strikes which will occur in the United States or any other country over the next twenty years. FRA requests information regarding the potential impacts of an extraterritorial dispatcher strike.

Another benefit of the United States locational requirement for the safe dispatching of United States rail operations is that United States railroads have adequate security provisions to properly protect information regarding rail movements of military goods and extremely hazardous materials. Release of this information could place inhabitants of the United States at risk. FRA believes that United States dispatching facilities have adequate safeguards in place to prevent such releases. Other countries may not have such measures in place. The hazard posed by disruption of a foreign dispatch center can be so great that the risk may not be deemed acceptable in many instances.

9.0 Cost Benefit Comparison

The cost estimates presented in this analysis are very sensitive to the levels of compensation paid to displaced and dismissed employees as well as to the potential levels of economies of scale achievable by consolidation of dispatching facilities and the term of this analysis. As discussed earlier, FRA does not have sufficient information available to forecast the level of compensation payments that would be made to displaced or dismissed dispatchers. This analysis assumes average compensation levels for a period of six years of 40 percent of total compensation for employees not covered by the New York Dock employee protection conditions, 65 percent for employees covered under New York Dock, and 50 percent when there is uncertainty regarding such coverage. Certainly, if compensation levels were significantly higher or lower the level of net costs associated with this rule would be respectively lower or higher. For instance, if the average compensation levels paid to displaced and dismissed dispatchers were 50 percent, 75 percent, and 60 percent for not covered, covered, and uncertain coverage, respectively, total twenty-year estimated savings would rise from $9.4 million to $11.2 million and, similarly, net costs would decrease by approximately $1.8 million. Exhibits 3a and 3b detail annual costs for both scenarios discussed.

Certain costs resulting from the inability to achieve economies of scale are not quantified in this analysis. The savings from avoiding severance payments are finite and are incurred in the early years; the costs in terms of cost reductions not achieved are experienced in every year and potentially infinitely. The longer the term of the analysis, the higher the level of costs would be relative to benefits. For the twenty-year term of this analysis, net costs would not be significant.

Given the inability to ensure that extraterritorial dispatchers will be subject to the equivalent requirements that ensure their ability to safely perform their safety critical duties, the potential vulnerability of the locations where they may be located to criminal or terrorist actions, and the safety implications posed by the inability to better control the dispatching functions performed outside of the United States, the locational requirement imposed by this Interim Final Rule is the only way to ensure that the levels of safety provided by the regulations that domestic dispatchers are subject to are maintained in the future. FRA believes that this assurance justifies the very long term costs associated with this Interim Final Rule.

As shown earlier, railroad accidents caused by error in human judgement or behavior (human factor accidents) account for approximately 30-36 percent of all reportable train accidents each year. In 1998, there were 971 train accidents attributed to human factors, out of a total of 2,745 train accidents (about 35 percent). Whereas "human errors" on the part of the train operator are typically limited in scope (the one train the operator controls), errors on the part of dispatchers, who control vast territories and the movements of many trains, can often be truly disastrous. One small mistake by a dispatcher can cause two trains to begin an unstoppable sequence of events, with the trains heading towards each other at high rates of speed, and quickly reaching a point where, by the time the danger is observable by the train operators, the collision and its potential for major loss of life, injuries, and property damage are inevitable.

On June 22, 1997, two freight trains collided head-on in Devine, Texas. The trains were operating on a single main track with passing sidings in nonsignalized territory in which train movement was governed by conditional track warrant control authority through a dispatcher. A conductor, an engineer, and two unidentified individuals were killed in the derailment and subsequent fire. Estimated damages exceeded $6 million. The National Transportation Safety Board determined that the probable cause of this accident was the failure of the third-shift dispatcher to communicate the correct track warrant information to the traincrew and to verify the accuracy of the read-back information.

In the absence of the protections offered by current Federal laws covering domestic dispatchers, FRA believes that additional dispatcher error-related accidents would occur were trains to be controlled by extraterritorial dispatchers. The lack of equivalent hours of service limitations, territorial familiarity, operating rule training and testing, and drug/alcohol testing in other countries create a serious hazard, which would be further exacerbated by the inability of FRA to inspect facilities and records, and compel improvements in safety performance.

Given that total costs are expected to be very low, it would only take the avoidance of a handful of minor accidents, or one major accident to fully justify this rule. FRA believes that the basic level of protection afforded by the current domestic laws is worth being maintained by the proposed prohibition against extraterritorial dispatching of United States rail operations. A dispatcher located on foreign soil, without the safety oversight of the above-mentioned Federal laws and enforcement, could make a tragic mistake costing American lives, numerous injuries, and environmental damage.

10.0 Alternatives Considered

As noted in the preamble to the Interim Final Rule, FRA is also seeking comment on an alternative that would permit stationing dispatchers abroad if a railroad could demonstrate to FRA that the dispatching operation would be subject to rules and FRA safety oversight and enforcement equivalent to that applying to United States-based dispatchers, as well as satisfactory resolution of other safety-related issues (e.g., security, communications). It appears that such equivalency does not now exist, even in Canada. (See, for instance, preamble discussion of CP drug testing program.)

11.0 Regulatory Flexibility Assessment

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 et seq.) requires an assessment of the impacts of rules on small entities. This Regulatory Flexibility Assessment (RFA) concludes, and FRA certifies, that this Interim Final Rule is not expected to have a significant economic impact on a substantial number of small entities.

Pursuant to Section 312 of the Small Business Regulatory Enforcement Fairness Act of 1996 (Public Law 104-121), FRA has published an interim policy that formally establishes "small entities" as being railroads that meet the line-haulage revenue requirements of a Class III railroad.

For the entities, the same dollar limit revenues governs whether a railroad, contractor, or other respondent is a small entity.

About 645 of the approximately 700 railroads in the United States are considered small businesses by FRA. The final rule applies to railroads that operate locomotives on standard gage track that is part of the general railroad system of transportation. Approximately 25 tourist and museum railroads that are small businesses do not operate on the general railroad system. Therefore, this rule will affect approximately 620 small entities. Small railroads that will be affected by the final rule provide less than 10 percent of the industry's employment, own about 10 percent of the track, and operate less than 10 percent of the ton-miles.

The American Shortline and Regional Railroad Association (ASLRRA) represents the interests of most small freight railroads and some excursion railroads operating in the United States. According to the ASLRRA, none of their members have shown any interest in relocating their dispatching to foreign countries or in contracting out their dispatching functions to entities in foreign countries. Since tourist, scenic, historic, excursion, and other small railroads generally do not own the right-of-way on which they operate and rely on the host railroad to dispatch their trains, these small railroads would not be affected by the United States locational requirement for dispatching of United States rail operations. Nevertheless, small rail operators have an opportunity to comment on this Interim Final Rule.

FRA field offices and the ASLRRA engage in various outreach activities with small railroads. For instance, when new regulations are issued that affect small railroads, FRA briefs the ASLRRA, which in turn disseminates the information to their members and provides training as appropriate. When a new railroad is formed, FRA safety representatives visit the operation and provide information regarding applicable safety regulations. The FRA regularly addresses questions and concerns regarding regulations raised by railroads.

Since this rule is not anticipated to impact small railroads, FRA is not providing alternative treatment for small railroads under this rule.

12.0 Conclusion

Given the level of uncertainty associated with future relocations of domestic dispatchers to foreign countries, it is difficult to estimate total costs associated with the United States locational requirement for dispatching of United States railroads. Costs associated with not being able to achieve economies of scale are especially difficult to estimate given the information currently available to FRA. Nevertheless, FRA estimates that costs in terms of foregone opportunities to achieve labor cost reductions associated with the prohibition of locating dispatchers outside of the United States could total as much as $7.6 million over the next twenty years. FRA also estimates that railroads would have to pay displaced and dismissed domestic dispatchers severance totaling an estimated $9.4 million during that same period. FRA believes that the savings in term of not having to make severance payments, coupled with safety benefits in the form of fewer accidents and related injuries and fatalities, would justify the savings foregone by railroads by not being allowed to relocate dispatcher facilities in foreign countries.

EXHIBIT 1

RAILROAD EMPLOYEE COMPENSATION

United States

The Association of American Railroads publishes Class I railroad average annual wages by employee group. The information for 1998 is used to develop the following average hourly rates and burdened hourly rates.

Employee Group	Average Annual Wages[10]	Burdened Annual Wages (40% rate)[11]	Burdened Hourly Rate (2080 hrs/yr)
Executives, officials, & staff assistants	$98,225	$137,515	$66.11
Professional & administrative	56,343	78,880	37.92
Maintenance of way & structures	45,288	63,403	30.48
Maintenance of equipment & stores	43,196	60,474	29.07
Transportation, other than train & engine	50,726	71,016	34.14
Transportation, train & engine	61,900	86,660	41.66

---

[10] Association of American Railroads, Economics, Policy and Statistics Department, Railroad Facts; 1998 edition, p. 56.

[11] Straight hourly rates are burdened to include employee fringe benefits and overhead

EXHIBIT 2

MONETARY VALUES OF PREVENTING INJURIES

Safety benefits of regulatory requirements are calculated in terms of property damages and casualties prevented as a result of issuing the regulation. Some property damage data appears in the FRA Rail Accident/Incident Reporting System. The United States Department of Transportation estimates the "willingness to pay" to avert a fatality to be $2.7 million. The "willingness to pay" estimate is based on the amount individuals are willing to pay to avoid a fatality. This value incorporates all aspects of well-being, including foregone labor and non-labor income, leisure time, and pain and suffering of relatives and friends.

The value of an injury is calculated using the Abbreviated Injury Scale (AIS) developed by the Association for the Advancement of Automotive Medicine. The AIS categorizes injuries into the six levels of severity presented below. The AIS also assigns values to these categories based on the "willingness to pay" approach discussed above.

AIS Level	Value	Fraction of Value of Life	Example of Injury
AIS 1 - Minor	$ 5,400	0.0020	Abrasion or contusion to the scalp; superficial or minor scalp laceration (less than 10 cm. long).
AIS 2 - Moderate	41,850	0.0155	Scalp laceration (greater than 10 cm. long) -- cut through skin into underlying muscle or organ.
AIS 3 - Serious	155,250	0.0575	Scalp laceration (greater than 10 cm. long) -- cut through skin into underlying muscle or organ with blood loss greater than 20 percent of body supply.
AIS 4 - Severe	506,250	0.1875	Spleen ruptures, leg crushes, chest wall perforations, and cerebral concussions with neurological signs.
AIS 5 - Critical	2,058,750	0.7625	Spinal cord injury, extensive/deep laceration of kidney or liver, extensive second- or third-degree burns, cerebral concussions with severe neurological signs.
AIS 6 - Fatal	2,700,000	1.0000	One that will probably eventually lead to death. Massive destruction of cranium, skull, and brain.